



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,609	04/30/2006	Hesheng Zhang	TICZ-00101-NUS	3461
33794	7590	03/15/2010		
MATTHIAS SCHOLL 14781 MEMORIAL DRIVE SUITE 1319 HOUSTON, TX 77079			EXAMINER CHANG, CELIA C	
			ART UNIT	PAPER NUMBER
			1625	
			NOTIFICATION DATE	DELIVERY MODE
			03/15/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTORECEIPT@GMAIL.COM  
IPRECEIPT@GMAIL.COM

### Office Action Summary

**Application No.**

10/595,609

**Applicant(s)**

ZHANG, HESHENG

**Examiner**

Celia Chang

**Art Unit**

1625

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 11-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Amendment and response filed by applicants dated Dec. 11, 2009 have been entered and considered carefully.

Claims 1-6, 11-22 and newly added claims 23-24 are pending.

2. On Oct. 19, 2009, another copy of the priority document and pct application were submitted by applicants. Please note that this submission is not in the English translation with certification.

3. The rejection of claim 1 under 35 USC 112 second paragraph is maintained for reason of record.

Applicants have amended the claim to incorporate some parameters for the steps, however, the term HX is not defined since the Markush element "X" is not found in the claim.

4. The rejection of claims 1-6, 11-22 under 35 USC 112 first paragraph is maintained for reason of record.

Applicants argued that starting material with the variation of formula II are available. However, the scope is drawn also to unlimited acid HX for which operability of such a scope is exclusively limited to p-toluene sulfonic acid with *exclusively 1,2-dihydro-5,6-dimethoxyl-2-(pyridine-4-yl)indene-1-one*. No other compounds/HX were shown to be operable.

The exclusive disclosure of this *single* operable condition without variation is unsupportive that broad condition of using any strong acid in any amount with the known material submitted by applicants in the response on page 13/29 would be operable for the process. In re Fisher 166 USPQ 18-20 indicated that in unpredictable art such as chemistry, the more unpredictable the field of activity, more enablement by way of specific examples is necessary in order to establish support for the broad scope.

4. The newly added claims 23-24 are rejected under 35 USC 112 second and first paragraph because claim 23 provided no definition for element "X". Claim 24 contains new matter for the

term “at least” stoichiometric amount of p-toluenesulfonic acid. Please note that on p.5 of the specification, the step of 4-pyridinecarboxyaldehyde with formula II was described to be in presence of a strong acid without any quantitative limitation. Therefore, the “at least stoichiometric amount” of the claim lacks antecedent basis and is new matter. Removal of new matter is required. In re Russmussen 210 USPQ 325.

5. The rejection of claims 1-2, 4-6, 11-22 under 35 USC 102(c) over US 7,148,354 is maintained for reason of record.

Please note that applicants argued that the instantly claimed process is demarcated from the prior art process in that the prior art process employed catalytic amount of toluene sulfonic acid while the instant claims used stoichiometric amount. Please note that no such limitation was found in the claims. The specification provided no description or such condition i.e. stoichiometric amount. As a matter of fact, the strong acid was described to an activation step (p.3 [0012]) or stabilization (p.5 [0017]) step. Therefore, understood can be an catalytic amount. The claims did not even define HX being toluene sulfonic acid nor any quantitative relationship. Please note that even if prior art used only catalytic amount, formula III is still formed in the reaction medium. Therefore, anticipation was found.

5. The rejections of claims 1-2, 4-6, 11-22 under 35 U.S.C. 103(a) as being unpatentable over Lensky US 5,606,064 in view of WO97/22584; claims 1-6, 11-22 are under 35 U.S.C. 103(a) as being unpatentable over Lensky US 5,606,064 in view of WO97/22584 (both recited on 1449) further in view of Devries et al. US 5,916,902; and claims 1-6, 11-22 under 35 U.S.C. 103(a) as being unpatentable over Reddy et al. '354 in view of Devries et al. US 5,916,902, are maintained for reasons of record.

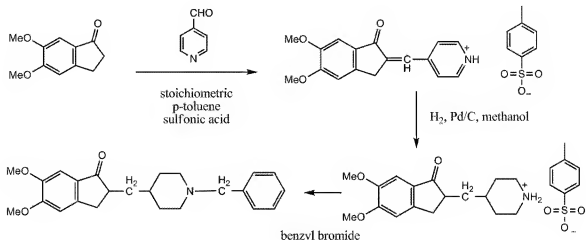
The gist of applicants' argument with respect to the prima facie obviousness established in the record is that the instant invention differ from the prior art in using p-toluenesulfonic acid in *stoichiometric* amount, subject to PdC/hydrogenation in methanol, then, subject the product toluenesulfonic acid to N-benylation and the yield is unexpected.

Initially, please note that none of the condition as alleged by applicants was incorporated in the claims except in claim 24 which contains new matter. Further, the alleged unexpected

Art Unit: 1625

yield between for example 90% and 85% cannot be supported without side-by-side comparison with statistical analysis. In chemistry, variation in repeated runs may vary in yield, thus, without side-by-side comparison, no conclusion can be drawn between a single measurement of 90% vs 85% being significantly different.

The allegation that the instant claims are drawn to process as delineated on p.16/29 of the response:

**Scheme 2**

Finds no antecedent basis in figures 1-8. In addition, the claims are not corresponding to the process as delineated since no such limitation was found in the amended claim 1 (HX is not limited, no quantitative limitation, no limitation on catalyst, methanol, etc.) and claims 23-24 contain new matter (see *supra*).

Mere argument with respect to process *not corresponding* to the claims cannot overcome the prima facie case establish in the record which provided explicit reasoning to the explicit difference between the "claims" and the prior art.

**5. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Celia Chang, Ph. D. whose telephone number is 571-272-0679. The examiner can normally be reached on Monday through Thursday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet L. Andres, Ph. D., can be reached on 571-272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*OACS/Chang*  
*Mar. 4, 2010*

*/Celia Chang/*  
*Primary Examiner*  
*Art Unit 1625*